Appendix H. Potential Sources for Funding

This section describes potential financing and funding alternatives for construction and maintenance of the Naknek bridge and connector roads. It also discusses the funding options, or lack of funding options for community operation and maintenance of the airports in South Naknek and/or Naknek.

Financing and Funding of Bridge and Road Infrastructure

Funds for building and maintaining roads can be generated in many ways. Federal, state, tribal, local, and private funding sources are identified. Because Alaska is a young state with a small population covering vast geographic areas, the gap between the availability of funds for transportation infrastructure projects and the needs of the state is significant.

A discussion of financing mechanisms is really a discussion of the basic questions of who pays, how much, and when. The construction of funding mechanisms determines how many infrastructure needs are met by the federal government, state government, or others. The structure also determines how many current and future needs are met by current users and taxpayers and how many are met by future users and taxpayers.

Alaska is the only state without a state-funded road construction program and is therefore almost entirely dependent on funding from the federal government (Denali Commission, 2003). ADOT&PF is more limited than most state departments of transportation because the state does not have a revenue source dedicated to funding of transportation projects. Most states have established highway trust funds supported by state gas taxes, motor vehicle excise taxes, licensing fees, and other transportation-related user fees.

In Alaska, each transportation project and program must compete not only with other transportation projects but also with the other pressing social and infrastructure needs of the state to qualify for funding. Although the federal government provides most of the funding for transportation projects, most projects require a match with state funds ranging from nine to 20 percent of the cost of the project.

Historically, the state has funded transportation projects on a “pay-as-you-go” basis, paying for construction, maintenance, and administration as money becomes available from user fees and federal grants from the Federal Highway Trust Fund (FHTF), the Federal Transit Administration (FTA), or in some cases, from special appropriations.

The FHTF is funded completely from federal fuel excise taxes and various truck taxes collected from highway users (Office of Don Young, 1998). Alaska, a donee state (one that receives more money from the FHTF than it contributes in federal motor fuel taxes), received an average of $312 million per year during the six-year period, 1998 to 2003, covered by the most recent transportation legislation—the Transportation Equity Act for the 21st Century (TEA-21). That amount represented $5.13 received from the FHTF, for every dollar Alaska contributed in motor fuel taxes, the highest amount of any state.

Although the federal government is the major source of transportation funding in Alaska for capital projects, the state pays for maintenance and operations for state roadways, most Alaska airports, and the Alaska Marine Highway System (AMHS).

ADOT&PF prepares a list of needed transportation projects across the state in three-year increments. The current State Transportation Improvement Plan (STIP) is for 2001 through 2003, but a new "Needs List" for 2004 through 2006 has been released in predraft format. ADOT&PF also maintains an up-to-date online project database of the Needs List. The STIP covers four categories of projects toward which surface transportation investments are directed:

Bringing the National Highway System (NHS) and the AMHS up to standard

Upgrading the Secondary Highway System (SHS) and the AMHS connections

Creating partnerships with local government to develop Community Transportation Plans for construction projects that serve local transportation needs

Implementing the Trails and Recreational Access for Alaska (TRAAK) to improve recreational access and opportunities for both visitors and residents

The Needs List contains all the projects that state residents, elected officials, and transportation officials have formally proposed; however, the content of the list is constrained by the estimate of available funding and is limited to those projects for which there is reasonable expectation of funding (ADOT&PF, 1999). ADOT&PF retains the selection authority for NHS and SHS projects because of the statewide importance of these projects. In addition, projects may be advanced or delayed to take advantage of specific funding categories (ADOT&PF, 2003).

Public-Sector Funding Available for Bridge and Road Construction

Ownership of public roads is divided among federal, state, and local governments. Local governments own more than 77 percent of public roads in the United States (Government Accounting Office [GAO], 2002a). States own 20 percent, including most of the Interstate Highway System (IHS). Although the federal government owns only three percent of public roads (including roads in national forests, parks, and on military and Indian reservations), it has played a major role in funding the nation's highways. According to a GAO report released in August 2002, the federal government invested more than $370 billion (constant 2001 dollars) in the IHS from 1954 through 2001 (GAO, 2002a).

Of the 13,635 miles of roads In Alaska, the state controls approximately 43 percent and the federal government controls approximately 19 percent. Ownership of nonfederal rural roads consists of about 55 percent by the state; 22 percent, boroughs; and 23 percent, municipal and other categories (National Association of Development Organizations, 2003).

The IHS was completed in the 1980s, and the federal government shifted its focus from construction of the system toward preserving and enhancing its capacity. In terms of public roads, capital expenditures include new construction, resurfacing, rehabilitation, restoration, and reconstruction (GAO, 2002a).

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the TEA-21, enacted on June 9, 1998, created a revolution of sorts in public transportation by providing predictable funding, innovative financing, and investments in new technology. The ISTEA and the TEA-21 were major multiyear acts. Although TEA-21 is the most recent authorization act for the federal-aid highway program, was set to expire on September 30,

2003, however Congress recently voted to extend TEA-21 for an additional five months until February 29, 2004.

Surface transportation acts vary in their scope and duration, as stop-gap funding bills or as major multiyear bills. On December 1, 1997, the Surface Transportation Extension Act extended funding for surface transportation programs and ensured continued program operation for one year while Congress worked on more comprehensive, multiyear legislation.

The federal highway program is financed through the collection of motor fuel taxes and other levies on highway users. Federal aid for highways is then provided to the states on a largely grant (cash) basis. Grant monies are distributed from the Federal Highway Trust Fund and apportioned to the states based on a series of funding formulas. Most funding is subject to grant matching, which for most federally funded projects is 80 percent federal and 20 percent state. With most grant funding, states are obligated to have all of the funds needed for a project in advance. They are reimbursed for project costs as they are incurred.

Federal programs

Federal funding has been the primary funding source in Alaska for construction of surface transportation projects. The state's constitution forbids the use of dedicated funds to supplement federal programs. As a result, most transportation projects in Alaska must compete with other state projects to provide matching funds for federal funding. Although some federal funding has been provided as a lump sum, most federal funding is allocated to specific programs. States with a high percentage of federal land, such as Alaska, are required to make a smaller match. Federal lands highways projects that serve federal and Indian lands receive 100 percent of funding from the federal government (FHWA, 1999). Most of the funding comes to the state through the FHWA and the FTA. Most surface transportation laws that govern the Federal-Aid Highway Program are part of Title 23 of the *U.S. Code* (USC), titled "Highways." This code is amended, as needed each time a new surface transportation authorization is enacted.

Intermodal Surface Transportation Efficiency Act

ISTEA gave state and local officials substantial flexibility by allowing them to shift funding among various surface transportation modes—for example, use of highway funding for transit projects. ISTEA also provided substantial funding for Intelligent Transportation Systems, including the development of "Smart" highways and cars to assist in the provision of providing safer, cleaner, and more efficient use of the nation's transportation infrastructure. The act expired on September 30, 1997.

Through Title 23 of the USC, ISTEA called for involvement of the public at all stages in the development of state transportation plans.

ISTEA established a new set of program principles covering the following:

Build partnerships with local and state officials to advance the strategic goals for transportation capital investment

Use funds in a flexible manner

Strengthen intermodal connections

Expand investment in, and deployment of, new information technologies for transportation services

Heighten sensitivity to the positive impact that transportation has on quality of life and on the shape and character of America's communities

Test and Evaluation Finance Research Project

The Test and Evaluation Finance Research Project of 1994 launched the FHWA Innovative Finance Test and Evaluation (TE-045) Program. TE-045 is a major initiative to identify barriers to highway infrastructure investment and to develop strategies to overcome them. The program was an acknowledgment of the funding gap between traditional government funding sources and the increasingly complex and diverse needs of the nation's transportation infrastructure (FHWA, 2002). The states were asked to provide input on flexible approaches to blending federal and nonfederal highway funds so that existing federal resources could be leveraged. Many innovative techniques proposed under the TE-045 initiative were later enacted into law with passage of the National Highway System Designation Act of 1995.

National Highway System Designation Act

Landmark legislation, the National Highway System Designation Act of 1995 (FHWA, 1996), designated almost 160,955 miles of roads as the NHS, considered the backbone of the national transportation network for the 21st Century. The NHS includes the IHS as well as other roads identified as important to the nation's economy, defense, and mobility. NHS was developed by the U.S. Department of Transportation (USDOT) in cooperation with states, local officials, and metropolitan planning organizations. ISTEA prevented NHS and Interstate Maintenance funds from being released to the states until an NHS was designated (FHWA, 1996).

The National Highway System Designation Act built on important financing options set forth in ISTEA and identified in the TE-045 initiatives (FHWA, 2002). These options are referred to as "innovative finance" by the FHWA and are intended to provide alternatives to traditional highway financing practices. For example, the National Highway System Designation Act expanded the eligibility of debt financing costs for federal-aid reimbursements and enabled states to use a debt finance instrument called Grant Anticipation Revenue Vehicle (GARVEE) bonds to generate up-front capital for major highway projects. The state may be unable to construct the projects in the near term with the use of traditional pay-as-you-go funding approaches.

The National Highway System Designation Act also amended Section 115(d) of Title 23 of the USC to permit the Secretary to approve an application for advance construction consistent with projects included on the STIP. Advance construction allows a state to initiate federally approved projects without a commitment of federal funds. A state may request obligation (commitment) of federal funds at a later date. Before the National Highway System Designation Act, the limitation on advance construction required that an authorization of federal funds be in effect one year beyond the fiscal year for which the project was approved, which eliminated a state's ability to advance construction in the final year of a multiyear authorization act. The amendment provided greater flexibility to the states to engage in advance construction.

Another amendment modified the federal share available for eligible toll projects, replacing the current range of 50 to 80 percent with a uniform federal share of 80 percent. In addition, the loan provisions have been expanded to cover both toll and non-toll facilities with a dedicated revenue source. Further, the states were given greater flexibility in determining the interest rates for loans and were given the authority to use loan repayments for additional activities.

23 USC 323 was amended to allow states to credit privately donated funds, materials, or services on a specific federal-aid project toward the required state match on the project. Before this change, states could receive credit only for donations of private property incorporated into a federal project or for state and local funds.

23 USC 118(e) (Legal Information Institute, undated) states:

Funds made available to the State of Alaska and the Commonwealth of Puerto Rico under this title may be expended for construction of access and development roads that will serve resource development, recreational, residential, commercial, industrial, or other like purposes.

The National Highway System Designation Act also allowed 10 states or multistate entities to establish transportation infrastructure banks that may be used to make project loans, enhance credit, subsidize interest rates, and provide other assistance for eligible highway and transit capital projects. The funds from the bank cannot be used as a grant. The recipients of the assistance can be public and private entities.

Surface Transportation Extension Act

On December 1, 1997, the Surface Transportation Extension Act of 1997 (Public Law 105-130; 111 Statute 2552) provided a 6-month extension of highway, highway safety, and transit programs, pending enactment of a law reauthorizing the ISTEA of 1991. The possibility of a stop-gap bill for this funding cycle currently exists, pending reauthorization of TEA-21.

Transportation Equity Act for the 21st Century

TEA-21 was enacted on June 9, 1998, and authorized the federal surface transportation programs for highways, highway safety, and transit for the six-year period,1998 to 2003. The $218 billion program, as amended, expired September 30, 2003. Reauthorization hearings are under way.

TEA-21 is a massive spending program that set federal transportation spending priorities for road, bridge, public transit, bicycle, pedestrian, and other traffic safety projects. When TEA-21 was enacted, several changes affected Alaska, including increased total funding availability, new categories of funds, and new opportunities for providing discretionary or competitive grant funds for transportation projects (ADOT&PF, 1999).

TEA-21 built on the success of its predecessor, ISTEA, but represented a new era in transportation funding decision-making because it linked highway resource levels to motor fuels tax revenues. TEA-21 directly ties user fees or taxes that go into the Highway Trust Fund to the level of program funding provided. States receive funds at a predetermined percentage rate. If tax receipts rise, program spending for highways increases proportionately.

At the same time, TEA-21 established a federal budget mechanism, which guaranteed that approximately $200 billion was reserved exclusively for highways, highway safety, and transit. This spending floor could be increased through the annual budget process if Congress chose to dedicate a portion of the general budget allocation to highways and highway safety.

The fact that TEA-21 was a six-year bill and resource levels were linked to motor fuels tax revenues, promoted state and local planning efforts by providing multiyear resources to state and local governments. TEA-21 also required state and metropolitan governments to incorporate a planning process into their decision-making process and to prepare both short- and long-term transportation plans.

Section 1601 of TEA-21 established the "high priority projects (earmarking) program," which lists 1,850 Congressionally designated projects across the United States with a specified dollar authorization for each project (Fischer, 2002). Almost $9.4 billion in authorizations were provided for this program.

Actual federal appropriations may be less than the amount authorized, however. Under TEA-21, $68.8 million of federal funding for Alaska was designated for 15 high-priority projects through 17 high-priority appropriations (ADOT&PF, 1999). According to federal rules, appropriations for high-priority projects must be passed through ADOT&PF before allocation to the project sponsor—a local government or other public agency. Table 6-13 shows the high-priority projects for Alaska contained in TEA-21, along with the funds authorized and the first year of the project.

Table 1. Alaska High Priority Projects Contained in TEA-21

Project name	Total funding ($000)[a]	First year of award
Seward – Spruce Creek Bridge	262.5	2002
Seward AMHS Intermodal Freight and Passenger Facility	4,500.0	1999
Kotzebue Roads	1,762.5	1999
Point MacKenzie Intermodal Facility	6,750.0	1999
Coffman Cover Ferry	2,250.0	1999
Kenai Spur Road Extension	6,000.0	2001
West Douglas Highway Extension	2,475.0	1999
Gravina Island Bridge	15,000.0	1999
Gravina Island Bridge	5,443.0	[b]
Northwest Railroad Access	2,500.0	1999
North Denali Access Route	1,500.0	2002
Prince of Wales Island Marine	750.0	1999
AMHS Ketchikan Ferry Terminal Facilities	2,250.0	1999
Ketchikan Dry Dock Improvements	750.0	[b]
Ship Creek Route	11,943.0	1999
Bradfield Canal	1,000.0	2002

[a]Actual federal appropriations may be less than authorization level shown.
[b]Project funding combined with preceding project.
Source: ADOT&PF, 1999.

TEA-21 contained some innovative provisions (Transportation Infrastructure Finance and Innovation Act of 1998, discussed below) that helped states address the ups and downs of federal spending cycles. Innovative transportation programs allow a state to spread construction costs over several years.

TEA-21 allows states to use federal-aid funds for design-build contracts after receiving FHWA approval. Traditionally, a transportation project has been first designed and then built under separate bids. Now, a single team can submit a plan based on technical factors and price. Because one team performs both the design and construction, construction can start before all design details are finished.

Transportation Infrastructure Finance and Innovation Act

One part of TEA-21, the Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA), helps states pay for large projects that have some funding available but need additional loan money for completion. Under TIFIA, the federal government provides states with credit assistance, rather than grant money. TIFIA established a new federal credit program under which USDOT may provide three kinds of credit assistance for surface transportation projects of regional or national significance:

A state can get a direct loan.

The federal government can guarantee a loan.

The federal government can provide a standby line of credit.

The goal of TIFIA is to leverage limited federal resources by attracting nonfederal coinvestment in infrastructure improvements. When public agencies speak of "leveraging," they are generally referring to the level of coinvestment that occurs in conjunction with federal funds either through matching requirements or through the attraction of new revenue sources (Cambridge Systematics, Inc., 2002). Instead of grants, the federal government provides credit assistance in the form of direct loans, loan guarantees, and standby lines of credit for projects of regional or national significance.

Key objectives of TIFIA include the following (USDOT, 2002):

Facilitate projects with significant public benefits

Encourage new revenue streams and private participation

Fill capital market gaps for secondary and subordinate capital

Be a flexible, "patient" investor willing to take on investor concerns about investment horizon, liquidity, predictability, and risk

Limit federal exposure by relying on market discipline

Some of the major requirements are as follows (USDOT, 2002):

Large surface transportation projects ($100 million generally; $30 million for Intelligent Transportation Systems)

TIFIA contribution limited by statute to 33 percent

Investment grade rating

Dedicated revenues for repayment

Applicable federal requirements (Civil Rights, NEPA, Uniform Relocation, Titles 23 and 49)

Eligible sponsors include state government, private firms, special authorities, local governments, and transportation improvement districts. Fees consist of a $30,000 application fee and a credit processing fee of between $100,000 and $300,000, depending on the complexities of the transaction. Bridges are considered eligible projects.

Other innovative finance techniques

In the FHWA primer on techniques for innovative financing, innovative finance is defined broadly as "a combination of specially designed techniques that supplement traditional highway financing methods" (FWHA, 2002). These innovative finance techniques can be classified into four categories that are as listed in Table 2.

Table 2. Innovative finance techniques for transportation projects

Classification	Strategy	Uses
Innovative management of federal funds	Advance construction	Allows a state to begin a project even if the state does not currently have sufficient federal aid obligation authority to cover the federal share of the project costs.
	Partial conversion of advance construction	Allows a state to elect to obligate funds for an advance-constructed project in stages.
	Tapered match	Applies the nonfederal matching requirement to the aggregate cost of a project rather than on a payment-by-payment basis.
	Flexible match	Allows states to substitute private and other donations of funds, materials, land, and services for the nonfederal share of funding for highway projects.
	Toll credits	Allows states to use revenue from toll facilities as a credit toward the nonfederal matching share of certain highway projects.
Debt financing	Grant Anticipation Revenue Vehicles (GARVEEs)	Permit states to pay debt service and other bond-related expenses with future federal aid highway apportionments.
Credit assistance	Section 129 loans	Allows states to use regular federal-aid highway apportionments to fund loans to projects with dedicated revenue streams.
	State Infrastructure Banks (SIBs)	Allow certain states to use regular federal aid highway apportionments to capitalize state-administered revolving funds. SIBs can offer loans and credit enhancement to both public and private transportation project sponsors. Banks can be capitalized with state funds.
	Transportation Infrastructure Finance and Innovation Act (TIFIA)	Allows USDOT to provide direct credit assistance to sponsors of major transportation projects. Credit assistance can take the form of loans, loan guarantees, or lines of credit; the total amount of credit cannot exceed 33 percent of eligible project costs.
Tolling	General toll provisions	Provide states the discretion to levy tolls on most noninterstate federal aid highways.
	Interstate Reconstruction and Rehabilitation Program	Allows up to three pilot projects to convert reconstructed or rehabilitated free interstate highway segments into tollways.
	Value Pricing Pilot Program	Sponsors the testing and evaluation of road and parking pricing concepts designed to achieve reductions in highway congestion.

Source: FWHA 2002

Although many of these techniques are not new, their application in the transportation sector is new. With the use of the techniques, FHWA is responding to the need to supplement the more standard method of financing highway projects through grants that usually cover about 80 percent of a project. FHWA describes these objectives for innovative finance:

Maximize the ability of state and other project sponsors to leverage federal capital for needed investment in the nation's transportation system

More effectively use existing funds

Move projects into construction more quickly than under traditional financing mechanisms

Make possible major transportation investments that might not otherwise receive financing

Some of these innovate finance techniques are discussed below. Of note is a recent assessment by the GAO (2002b) comparing four methods of financing $10 billion of infrastructure projects. GAO concluded that although alternative financing mechanisms have accelerated the pace of some surface transportation infrastructure improvement projects and stimulated additional investment and private participation, in the final analysis, the mechanisms are different forms of debt financing. In the end, these debts must be repaid with interest.

Congressional appropriation

An appropriation is an act of Congress that generally provides legal authority for federal agencies to incur obligations and spend money for specific purposes, usually through the enactment of 13 separate appropriation bills. In addition to the annual USDOT and Related Agencies Appropriations Act, Congress can earmark a direct appropriation for a specific local project.

Denali Commission

The Denali Commission is a federal-state partnership established by Congress in 1998 to provide critical utilities, infrastructure, and economic support throughout Alaska. Senator Ted Stevens and former Senator Frank Murkowski introduced a measure at the end of the last session of the 107th Congress to provide $440 million to the Denali Commission to fund transportation projects in rural Alaska. Senator Ted Stevens and Senator Lisa Murkowski have introduced a bill in the 108th Congress that would establish a "Denali transportation system" in the State of Alaska. Senator Stevens has said that projects that provide access to resources would be given priority (Bennett, 2003). The March 2003 Denali Commission Update (2003a) states:

This new transportation element could either be enacted independently, or merged into reauthorization of the Transportation Equity Act (TEA-21), a major piece of legislation which authorizes and appropriates funds to build roads, bridges, and other infrastructure. Congressman Young chairs the committee with jurisdiction over the reauthorization and bill and will be a driving force behind how funds will be spent for transportation projects nation-wide over the next six years. In anticipation of this, the Denali Commission has met with a wide variety of agencies and individuals from around the state to gain their perspectives and recommendations on the potential role of the Denali Commission could play in the access arena.

If the Denali Commission receives authorization and appropriation for a transportation program, allocation decisions would need to be made. The Denali Commission may place some type of matching criteria on use of these funds. Funding through the Denali Commission might expedite the entire funding and construction process of transportation projects.

State of Alaska programs

The matching funds required for federal highway grants are typically appropriated from the General Fund. The Alaska constitution prohibits the dedication of funds. Although motor fuel taxes are important revenue sources for the state, these revenues go into the General Fund.

Bonds

Three types of bonds are described in the following subsections: general obligation bonds, GARVEE bonds, and revenue bonds. As mentioned above, GAO (2002b) recently completed an assessment of costs that federal, state, and local governments (or special purpose entities they create) would incur to finance $10 billion in infrastructure projects with the use of four current and newly proposed financing mechanisms. To date, most federal funds for highways has come from federal aid highway grants appropriated by Congress from the Highway Trust Fund. This funding mechanism remains the lowest-cost financing method.

The GAO assessment determined that federal highway grants are the lowest-cost finance mechanism in the long term because they are the only alternative that does not involve borrowing from the private sector through the issuance of some type of bond. Private investors must be compensated for the risks they assume in the purchase of bonds. Governments must compensate for these risks in addition to paying back the present value of the bond principal.

For the short term, a five-year period or less, tax-exempt bonds require the least amount of public money up front. These bonds also involve the most borrowing and have the highest combined costs for governments.

General obligation bonds. A general obligation bond is a municipal bond secured by the taxing and borrowing power of the local or state government issuing it. Both the principal and interest are secured by the full faith and credit of the issuer and usually supported by either the issuer's unlimited or limited taxing power. In addition, general obligation bonds must be approved by voters. General obligation bonds are repaid from the tax base of the governmental body issuing the bonds. In other words, a government entity sells the bonds, uses the proceeds to support one-time capital costs, and then allocates a portion of its future annual revenue to pay toward the debt each year.

The principal characteristic differentiating municipal bonds from other capital market securities is that the interest paid to the bond investors is exempt from federal income tax.

GARVEE bonds. GARVEE bonds are debt-financing instruments that enable states to fund transportation projects based on their anticipated future federal funding. Combined with advance construction, GARVEEs enable a state to use federal-aid funds for future debt service payments. The GARVEE bond techniques enable a state to accelerate construction timelines while spreading the cost of a transportation project over its useful life, rather than just the construction period. The use of GARVEEs expands access to capital markets either

as an alternative or in addition to general obligation or revenue bonding capabilities. Projects need to be approved by the FHWA. GARVEE bonds were conceived as a tool for accelerating transportation projects at present-day costs. Because federally pledged revenues secure the bonds, they do not increase a state's general bonded indebtedness.

Before TEA-21, states were prohibited from repaying their debt with federal money. TEA-21 removed this hurdle by guaranteeing federal funding levels through Fiscal Year 2003 and included an equity provision ensuring that each state will get back a share of the Highway Trust Fund equal to 90.5 percent of its percentage contribution. A state can then pledge a share of future obligations of federal highway funds toward repayment of bond-related expenses, including a portion of the principal and interest payments, insurance costs, and other costs.

Although GARVEE bonds can be used to speed up construction of transportation projects, they are not state-guaranteed debts. The GARVEE bonds offer an additional source of revenue outside of the General Fund and are subject to annual appropriation by the state legislature.

In November 2002, Alaska voters approved a $227 million portfolio of transportation projects. Eight of the projects approved by voters are anticipated to cost $102.8 million that will be supported by GARVEEs. The rest of the portfolio of projects will be financed by state general obligation bonds to be repaid with state revenues.

Revenue bonds. Municipal bonds, or "munis", are bonds issued by city, county, or state governments for a variety of projects such as building schools, expanding highways, or constructing a new sewage system. Municipal bonds are normally exempt from federal taxes and sometimes from state and local taxes. Revenue bonds are a type of municipal bonds for which principal and interest are secured by revenues such as charges or rents paid by users of the facility that is built with the proceeds of the bond issue. Projects financed by revenue bonds include highways, airports, and not-for-profit health care and other facilities.

According to the Indian Tribal Government Tax Status Act of 1982 to the *Internal Revenue Code*, Indian tribes have the authority to issue tax-exempt revenue bonds to finance "essential governmental functions." Although a road is usually considered "an essential government function," a private road may not be considered "an essential service" by the Internal Revenue Service.

Alaska Industrial Development and Export Authority

AIDEA is a public corporation and government entity of the State of Alaska that was established by the Alaskan Legislature in 1967 "to promote, develop and advance the general prosperity and economic welfare of the people of Alaska."

AIDEA has established a variety of programs designed to promote economic development in Alaska. The most important program applicable to this study is the Development Finance Program established by the Alaska Legislature in 1980. Through this program, AIDEA owns and finances certain projects (through tax-exempt bonds) that are economically beneficial to Alaska. Projects typically provide infrastructure support for resource utilization and development such as airports and seaports. A project must assist the local economy and be endorsed by the local government.

A project must be considered financially feasible to qualify for this financing. To be considered financially feasible, the revenues from user fees and leases must be sufficient to repay the costs of the project, which include construction costs, planning and permitting costs, cost of issuing the bonds, and direct job-specific costs. Projects requiring more than $10 million in financing must receive authorization from the Alaska Legislature. Some projects financed through the Development Finance Program include the Federal Express Aircraft Maintenance Facility, Healy Clean Coal Project, the Skagway Ore Terminal, the Unalaska Marine Center, and the DMTS—the port and road serving the Red Dog Mine north of Kotzebue.

AIDEA owns the DMTS, and its investment base is approaching $267 million (AIDEA, 2003). The original construction of the project was funded in 1987 by the sale of $103 million in tax-exempt bonds that were sold by AIDEA. Teck Cominco Alaska Incorporated has nonexclusive priority rights to use the system until 2040 and pays a toll for use of the facilities. Teck Cominco is also obligated to operate and maintain DMTS at a commercially reasonable rate of compensation.

Financing through AIDEA is most beneficial to projects that qualify for the tax-exempt bond financing. Those projects that do not qualify may find better financing options elsewhere. Depending on the project specifics, AIDEA financing may not be attractive to projects being studied in the RTA if they do not qualify for the tax-exempt financing. In the case of the DMTS, Teck Cominco guaranteed the State of Alaska $12 million a year in toll fees, or potentially, $600 million during its projected 50-year life, in return for the state's investment. That figure included a 6.5 percent rate of return on the original state investment of $150 million (Skok, 1991).

State Infrastructure Banks

The State Infrastructure Bank (SIB) is a new FHWA program established by the 1995 National Highway System Designation Act. Through creation of an SIB, transportation providers at the state or regional level can finance capital projects. An SIB can give a state increased flexibility in project selection and financial management. The federal government provides “seed” funds to the SIB so that the bank can make loans and provide other types of credit assistance to both public and private transportation project sponsors. The original seed money to Alaska was $2.5 million. After depositing the seed funding, any match funding, federal-aid highway funding, and possibly other state funds into the bank, a state can use the bank to make loans, back bond issues, and accelerate state and federal-aid highway projects. SIBs can enhance private investment by lowering the financial risk and helping to attract private developers wishing to take an equity interest in projects. As of September 2001, 32 states had SIBS with 245 loan agreements amounting to more than $2.8 billion (FHWA, 2002).

Private-sector funding for construction

Several public-private models for funding transportation construction have been used, including the following:

Build-operate-transfer. A private company or consortium receives a concession to finance, build, and operate a facility for a fixed period of time, after which ownership reverts to the public sector.

Build-operate-own. A private company or consortium is granted a franchise, then designs, finances, builds, and operates the facility it owns by using public support in land acquisition and other related matters.

Buy-rehabilitate-operate. A private group purchases or leases an existing facility from the government and then repairs, refurbishes, or expands it. The investors retain ownership and exercise all responsibilities of ownership, including collecting all revenues and paying taxes on the property.

Lease-rehabilitate-operate. Similar to buy-rehabilitate-operate, under lease-rehabilitate-operate, the private developer operates the facility for a period of years before the property reverts to the public sector at the end of the lease.

Toll roads

Toll roads offer an alternative method of financing for needed highway projects, particularly when the traditional tax-based method of financing roads is no longer sufficient to handle the mobility needs of the state in a timely fashion. Financing projects through the use of tolls adheres to the "user pays" principle in which the individuals who benefit most from the project pay for the project (FHWA, 2002). Federal highway law now permits tolling on most noninterstate highway projects as long as resulting toll revenues are committed to payment of debt service and the operation and maintenance of the tolled facility. Toll roads have proved to be an effective method to finance an industrial road, as supported by AIDEA's experience with the DMTS.

Toll roads provide a precise way of linking benefits to user costs. If toll facility projects are initiated by a public authority in a state, the state transportation department can request that reimbursements from the federal government are made directly to that public authority (FHWA, 1999).

Right-of-way contribution

Some funding for construction of transportation projects can be obtained by contributions from the private sector for allowing use of the road ROW to build and operate a pipeline.

Title 23 USC 323 allows certain ROW donations to count toward the local funding share of a transportation project. Donations must be from private ownership to public ownership for project purposes. Land that has been acquired previously and is already intended or available for use by the public does not qualify for donation credit.

Maintenance

According to the GAO (2002a), maintenance and rehabilitation of existing infrastructure should be considered an important supplement to and, in some cases, a substitute for building new infrastructure. Maintenance of roads is based on deterioration. Although roads will deteriorate if simply left unused, most deterioration is associated with use. The damage caused by vehicles increases proportionately with size and weight. Therefore, costs associated with maintenance are greater for trips made by heavy vehicles.

Taxes or tolls on users are broadly viewed as being the equitable way to fund road maintenance. From an efficiency perspective, such taxes or tolls are also the most efficient way to generate funding for maintenance. Efficiency effects can only be generated, however,

if the costs of maintenance are internalized to road users. Ideally, each vehicle would pay its share of the maintenance costs necessitated by its use—the cost of maintenance would be allocated to those who generate the cost requirement.

Federal funding

When FHWA provides funding for roads, the recipient is responsible for the long-term maintenance of the project because federal funding is not available for operation or maintenance.

BIA distributes funding to tribes and Native organizations on a state-by-state basis using its own administrative criteria for operation and maintenance of tribal roads. In Alaska, however, the BIA funding, which amounts to approximately $14 million per year, is spread among approximately 200 tribes in the state (Denali Commission, 2003b).

State funding

Although the federal government is the major source of transportation funding of capital projects in Alaska, the state pays for maintenance and operations for state roadways. ADOT&PF is more limited than most state departments of transportation because the State of Alaska does not have a revenue source dedicated to funding of transportation projects. The *Vision 2020 Statewide Transportation Policy Plan* (ADOT&PF, 2002) was approved by ADOT&PF Commissioner Joe Perkins in November 2002. This plan sets the direction for Alaska's 21st century transportation system.

In this plan, three of the 18 policies deal directly with maintenance issues. One of the policies addresses the need to "adequately operate and maintain the transportation system; advocate and develop mechanisms that provide sufficient and stable levels of funding." Five objectives are specified to carry out this policy:

Advocate for an adequate level of state funding for maintenance and operations of state surface, air, and marine transportation facilities

Explore an increase in transportation fuel taxes and related fees (such as vehicle and driver registration fees) and seek ways to ensure that these revenues are allocated to transportation capital and operating needs

Consider maintenance and operating costs during project development to reduce long-term maintenance costs.

Contract out maintenance work when cost-effective

Advise the public of personal actions they can take to reduce litter and highway maintenance and to lengthen the useful life of transportation facilities

Contractual arrangements between public and private funding sources

Interest in public-private partnerships for transportation projects has increased, largely because of the growth in the demand for infrastructure and limited public funds to meet current and future needs. Contractual arrangements, or public-private partnerships, can provide for a transfer of a significant level of responsibility and risk from the public to the private sector. The arrangements can be based on performance-based outcomes, rather than on work activities. Several states allow agreements with highway construction contractors,

engineering consulting firms, toll facilities, private developers, and the financial community to pay for transportation, construction, and operation. In New Mexico, the private firm that designed and built a major new highway expansion contracted with the state to maintain the road for 20 years.

Potential funding matrix

Table 3 provides a guide to potential funding sources for the potential project. The substantial resources needed to build and maintain a project of this size and complexity would require a funding package that shares the costs, risks, and benefits among public and private entities with an interest in its completion. Agencies or sources listed in the table may or may not have a role in financing various stages of the project. Separate funding packages may be needed for construction and maintenance of the various phases of the project.

Table 3. Funding Matrix for Bridge and Road

Program	Agency	Use of funds	Total funds available	Comments
Private				
Contributions from processors that might locate in South Naknek	Private	Operating and maintenance costs	To be determined	
Contributions of ROW by existing landowners		In-kind contribution to reduce capital cost	To be determined	
Tolls for use of roads or bridge			To be determined	
Federal				
Public Lands Highway Program	Federal Highway Admin.	Construction	Approx. $75 million in federal funds is authorized annually through Fiscal Year 2003.	Potential road into NPR-A is located on BLM lands.
Indian Reservation Roads Program	Bureau of Indian Affairs	Construction and maintenance	BIA funding spread among more than 200 federally recognized tribes in Alaska	BIA waiting for funding of just under $3 million for single-lane road between Nuiqsut and Colville River.
Denali Transportation System	Denali Commission	To be determined by enabling legislation, Denali Commission, or both	Up to $440 million per year	Authorization legislation currently before Congress. Appropriation legislation would also be needed.
National Highway System	Federal Highway Admin.	Construction of high-priority highways that connect major communities within and outside of State	Varies	Reauthorization legislation currently before Congress. Eligibility to be determined.
Surface Transportation Program	Federal Highway Admin.	Flexible funding that may be used by states and localities for projects on any federal-aid highway, including the NHS and bridge projects on any public road.	Varies	Reauthorization legislation currently before Congress. Eligibility to be determined.
High Priority Projects	Federal Highway Admin.	To be determined	Varies. Approximately $52 million of projects in Alaska under TEA-21. Nationally, High Priority earmarks accounted for $9.4 billion.	Reauthorization legislation currently before Congress.

Program	Agency	Use of funds	Total funds available	Comments
GARVEE Bonds	Federal Highway Admin.	To be determined	To be determined	Permit states to pay debt service and other bond-related expenses with future federal-aid highway apportionments.
TIFIA	Federal Highway Admin.	Provides credit assistance in the form of direct loans, loan guarantees, and standby lines of credit for projects of regional or national significance	Not a funding source	
Flexible Match	Federal Highway Admin.	Allows states to substitute private and other donations of funds, materials, land, and services for the nonfederal share of funding for highway projects		
State				
Industrial Development Roads	State General Fund	Preliminary work on potential industrial road projects	$5 million (original budget) or $10 million	Nuiqsut road has been identified as a potential project; proposed in the State of Alaska Fiscal Year 2004 budget.
General Obligation	State General Fund	To be determined	To be determined	
Revenue Bonds	State	To be determined	To be determined	No revenue stream currently identified.

While capital construction may take place in phases over a longer period of time, initial funding should be found to allow for the environmental permitting process to take place for all phases of the project.

A Congressional earmark may be required for this project. However, earmarks rarely pay the entire cost of a transportation infrastructure project. Some type of bonding may also be required. GARVEE bonds may be an option.

Table 4 identifies potential funding for construction based on understanding of the current priorities of the State of Alaska and potential funding sources for the two sections of the potential project.

Table 4. Potential Funding Scenario for Construction

Section	Type of potential funding
Naknek Crossing Bridge	State Industrial Roads Program
	High Priority Project (earmark)
	Surface Transportation Program and National Highway Program (eligibility to be determined)
	General Obligation or GARVEE Bonds
	Private-sector participation to upgrade bridge to industrial standards
	Transportation Infrastructure Finance and Innovation Act
Road	State Industrial Roads Program
	General Obligation or GARVEE Bonds
	Private-sector participation to upgrade bridge to industrial standards
	State Industrial Roads Program
	Surface Transportation Program
	Transportation Infrastructure Finance and Innovation Act
	Flexible Match
	Denali Commission Transportation Program

Funding Options for Operation and Maintenance of Community Airports

If a connecting bridge is built between South Naknek and Naknek, the State of Alaska may stop funding for either one or both of these small communities airports. This could occur because of their close proximity, and with the two communities connected, residents could travel by vehicle more easily, to either airport, which could be either Naknek or South Naknek, or the larger King Salmon airport.

However, community members of both South Naknek and Naknek have voiced concerns over their desire that their local airport remain in operation even if the two communities are connected. Unfortunately, there are no known grants available for funding the operation and maintenance of an existing airport. Most, funding which is available to airports is through the FAA, and this is limited to capital grants for the construction of an airport or supporting facilities.

Fee-Based Revenue Sources

Since grants are not available for the operation and maintenance of local airports, and there is a good possibility that the state government will not continue to finance either the Naknek or South Naknek airport once, Naknek and South Naknek may need to devise other methods for obtaining funding for the cost of operating and maintaining their airports.

Possible sources of revenues for the airports are leasing revenues and/or fees for tie-downs.